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Applicants: Roy A. Gravel et al.
Serial No.: 10/607,712
Filed: June 27, 2003
Title: HUMAN METHIONINE SYNTHASE: CLONING, AND METHODS
FOR EVALUATING RISK OF NEURAL TUBE DEFECTS, CARDIOVASCULAR
DISEASE, AND CANCER
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Hs

FIG. 1

BOX 1:			** *** *		
	7	(20)		(CEO ID NO. 3)	
	Ec	(20)	DGGMGTMIQ	(SEQ ID NO: 3)	
	Ss	(20)	DGAMGTNLQ	(SEQ ID NO: 4)	
	Ml2	(5)	DGAMGTQLQ	(SEQ ID NO: 5)	
	Hi	(20)	DGAMGTMIQ	(SEQ ID NO: 6)	
	Ce	(22)	DGAMGTMIQ	(SEQ ID NO: 7)	
	Hs	(34)	DGGMGTMIQ	(SEQ ID NO: 8)	
BOX 2	•				
	_		****	*	
	Ec	(752)	ATVKGDVHDIGK	N (SEQ ID NO: 9)	
	Ss	(729)	ATVKGDVHDIGK	N (SEQ ID NO:10)	
	Ml2	(726)	ATVKGDVHDIGK	N (SEQ ID NO:11)	
	Hi	(142)	ATVKGDVHDIGK	N (SEQ ID NO:12)	
	Ce	(766)	ATVKGDVHDIGK	N (SEQ ID NO:13)	
	Hs	(778)	ATVKGDVHDIGK	N (SEQ ID NO:14)	
BOX 3:					
			** ** *		
	Ec	(1095)	LAEAFAEYLH	(SEQ ID NO:15)	
	Ss	(1085)	MAEALAEWTH	(SEQ ID NO:16)	
	Mll	(56)	LTEALAEYWH	(SEQ ID NO:17)	
	Hi	(490)	LAEAMAEYLH	(SEQ ID NO:18)	
	Ce	(1084)	LAEAYAEYLH	(SEQ ID NO:19)	
	Hs	(1133)	LAEAFAEELH	(SEQ ID NO:20)	
BOX 4:					
<u> </u>	<u> </u>		****		
	Ec	(262)	GGCCGTTPQHI	(SEQ ID NO:21)	
	Ss	(243)	GGCCGTRPDHI	(SEQ ID NO:22)	
	Ml2	(226)	GGCCGTTPDHI	(SEQ ID NO:23)	
	Ce	(264)	GGCCGTTPDHI	(SEQ ID NO:24)	
		_		4	

(321) GGCCGSTPDHI

(SEQ ID NO:25)

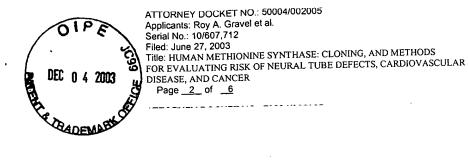
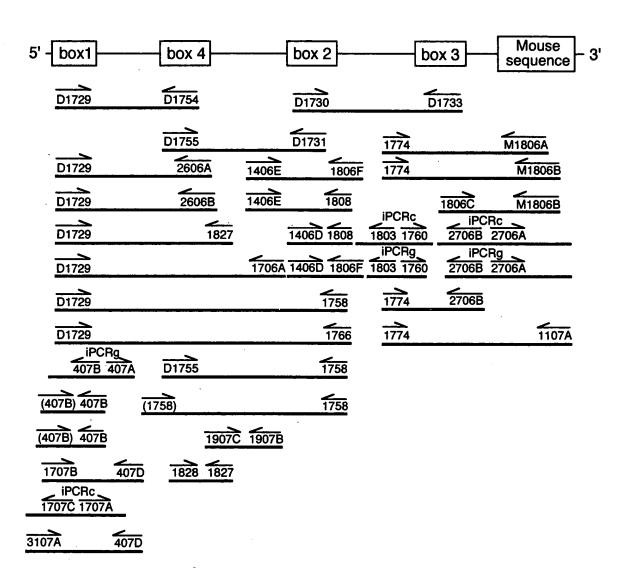


FIG. 2



DEC 0 4 2003 W

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FIG. 3

GETCACCTETGEAGAGCACETCTTCTCTGCCGCGCCCCTCTGCGCAAGGAGAGACTCGACAAC vielčnikcečer i conventiel čecovat cešveži clevýcovovát lecešeč v lečovi con leckovi cešev leceše v le 841 TATETICCTCTETTATCCCAATECAGETCTTCCCAACA 1561 CHICLECTIESENVANCIESES 1801 CATGCAAT evylleecckleicefvefvceccliefelylecccliefe S881 ILLEWACKTYLEVCTECHEVECTERBENCTACVILLENCERVECT.LICALIENTERLERCHECTCREEBEN 3001 ACACTAGETEGAGAGACCAGGAGAGGTTTACCAGTGATTATTAGTCAA ekleklefeckcoveeklekvevekokovlavekovellikolvleerivveekveveekleve 3841 AGGAAATACAACCTAG

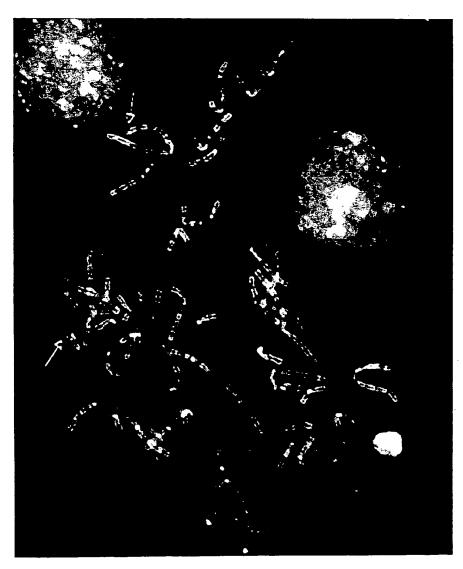


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FIG. 6

	box_2

Ec	IATVKGDVHDIGKNIVGVVLQCNNYEIVDLGVMVPAEKILRTAKEVNADL
Hi	IATVKGDVHDIGKNIVSVVMQCNNFEVIDLGVMVPADKIIQTAINQKTDI
Ce	IATVKGDVHDIGKNIVSVVLGCNNFKVVDLGVMTPCENIIKAAIEEKADF
Ml	LATVKGDVHDIGKNLVDIILSNNGYEVVNLGIKQPITNILEVAEDKSADV
Ss	<pre>IATVKGDVHDIGKNLVDIILSNNGYRVVNLGIKQPVENIIEAYKKHRPDC</pre>
Mm	LATVKGDVHDIGKNIVGVVLACNNFRVIDLGVMTPCDKILQAALDHK A DI
Hs	$ t LATVKG \underline{DVH}DI GKNIVGVVLGCNNFRVIDLGVMTPCDKILKAALDHKADI$
	*** * * * * * * * * * * * * * * * * * *
	***. * *
Ec	TALSGLITPSLDEMVNVAREMERQGFITPHHIGGATTSKAHTAVKTEQNT
Hi	IGLSGLITPSLDEMVYVAKEMNRVGLNIPLLIGGATTSKTHTAVKISPRY
Ce	IGLSGLITPSLDEMVIVAKEMINKVGENIPLLIGGATISKIHIAVKISPKI VGMSGLLVKSTVIMKENLEEMNTRGVAEKFPVLLGGAALTRSYVENDLAEVY
Ml	I AMSGLLVKSTAFMKENLEVFNQEGITVPVILGGAALTPKFVHQDCQNTY
Ss	IAMSGLLVKSIAFMKENLEVFNQEGIIVFVILGGAALIFKFVHQDCQNII IGLSGLITPSLDEMIFVAKEMERLAIKIPLLIGGATTSRTHTAVKIAPRY
Mm	-
Hs	IGL <u>SGL</u> ITPSLDEMIFVAKEMERLAIRIPLLI <u>GG</u> ATTSKTHTAVKIAPRY
Mutatio	ns: Δ
	- SGPTVYVQNASRTVGVVAALLSDTQRDDFVARTRKEYETVRIQHGRKKP
Ec	KQHCVFYTSNASRAVTVCATLMNPEGRAALWEQFKKDYEKIQQSFANSKP
Hi	- PHPVVHCLDASKSVVVCSSLSDMSVRDAFLQDLNEDYEDVRQEHYASLK
Ce	- PHPVVHCLDASKSVVVCSSLSDMSVKDAFLQDDMEDTEDVKQENTASDK - EGEVHYARDAFEGLKLMDTIMSAK-RARRCAGEPGVLSCRSRPQ
Ml	- KGQVIYGKDAFADLHFMDKLMPAKNSHNWDDF-QGFLGEYATE-NGHNVTTD
Ss	- SAPVIHVLDASKSVVVCSQLLDENLRDDYLEEILEEYEDIRQDHYESLK
Mm	-SAPVIHVLDASKSVVVCSQLLDENLKDEYFEEIMEEYEDIRQDHYESLK
Hs	
Mutatio	ons:

```
Ec (SEQ ID NO: 73)
Hi (SEQ ID NO: 72)
Ce (SEQ ID NO: 71)
   (SEQ ID NO: 70)
Ml
   (SEQ ID NO: 69)
Mm (SEQ ID NO: 68)
Hs (SEQ ID NO: 67)
```